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GOVERNMENT
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FOREST WORK





GOVERNMENT FOREST WORK.

HISTORY.

Until about 20 years ago the forests on the public domain—the timber of the Rocky Mountains from Montana to New Mexico and of the Pacific coast ranges from northern Washington to southern California—seemed in a fair way to be destroyed eventually by fire and reckless cutting. Nothing whatever was being done to protect them, or even to use them in the right way. They were simply left to burn, or else to pass by means of one or another of the land laws into the hands of private owners whose interest in most cases impelled them to take from the land what they could get easily, and move on.

Had this destruction gone on unchecked, there would in the end have been little timber left in the West, either to burn or to cut, and the development of the country, which calls for timber not only at certain times but all the time, would have been retarded or stopped altogether.

More than this, the destruction of the forest cover on the watersheds supplying hundreds of streams which rise in

the western mountains would have had its certain effect on streamflow—low water or no water at all during the long dry periods, and destructive floods after heavy rains. This, of course, would have meant disaster to the systems of irrigation by which thousands of farmers raise their crops. It would also have very seriously hampered, and in many cases prevented, electric power development.

So in 1891 Congress authorized the President to set aside Forest Reserves, as National Forests were then called, in order to protect the remaining timber on the public domain from destruction and to insure a regular flow of water in the streams. The first one—the “Yellowstone Park Timberland Reserve”—was created by President Harrison that same year, and later Presidents have created others, until at present the total net area is approximately 162,000,000 acres. Within the Forest boundaries are also some 21,000,000 acres in private ownership, consisting of lands granted or taken up for one purpose or another before the Forests were created or of homestead entries made since.

Government administration of the Reserves soon made apparent the necessity for scientific forestry, to make their use general. It was the duty of the Secretary of the Interior to prescribe regulations which would insure the fulfillment of the objects aimed at in creating the Reserves. Timber cutting must not destroy the Forests, but must provide for the growing of a new timber crop. Grazing had grossly abused the range; it was necessary to devise methods for increasing the forage crop. Both timber use

and grazing use must be so managed that water supplies would be maintained and bettered. All the resources of the Forests needed to be given careful consideration and plans devised for their best development. Without such plans, little of the value of the Forests to the public could be secured. Technical problems were involved which the officials of the Interior Department felt to be outside their province. They therefore at first requested the aid of the experts of the Department of Agriculture as advisers, and soon recommended the transfer of administration of the Reserves to the latter Department.

This transfer took place in 1905. The following year the name "Forest Reserves" was changed to "National Forests," to indicate that their resources were not locked up as "reserves" for a distant future. In administering the National Forests the first aim of the Forest Service has been to protect their resources so that they will always be there to use, and at the same time to see to it that the greatest number of people have an equal chance to use them.

Though the National Forests represent the greatest single activity of the Government in forestry, Government forest work had its real beginning as far back as 1876, with the appointment by the Department of Agriculture of a special agent to study general forest conditions in the United States. In 1881 a Division of Forestry was created in the Department; but for a long time it received an annual appropriation of less than \$30,000, and so could be little more than a bureau of information and advice. From this small beginning, as its field of work expanded, the Divi-

sion grew (1901) into the Bureau of Forestry, and finally (1905) into the Forest Service, with an appropriation for the fiscal year 1915 of \$6,007,461.24, of which about \$4,750,000 was spent for the administration and protection of the Forests.

To-day the forest work of the Government is mainly centered in the Forest Service, which, in addition to administering and protecting the National Forests, studies a great number of general forest problems and diffuses information regarding forestry.

The Government does other forest work, however, besides that of the Forest Service. The Office of Forest Pathology of the Bureau of Plant Industry studies the diseases of trees, and the branch of Insect Investigations in the Bureau of Entomology seeks means for controlling their insect enemies. The Department of the Interior, through its Office of Indian Affairs, administers the forests on Indian Reservations, totaling some 15,000,000 acres, and has direct charge of the timber in the National Parks.

Thus in the space of less than 25 years the forests on the public domain have passed from a condition in which the timber was always in imminent danger of being destroyed to one in which it is everywhere being protected; from a state in which, as a result of repeated fires and wasteful lumbering, the annual growth was steadily decreasing, to one in which scientific management insures a steady increase in annual growth and a good supply of timber for the people for an indefinite period.

NATIONAL FOREST POLICY.

THE FORESTS FOR USE.

The policy under which the National Forests are administered by the Department of Agriculture through the Forest Service is to make them of the most use to the most people, but especially to the small man and the local farmer and settler. They are meant, first of all, to enable the people of the West to build homes and to maintain them. This policy was laid down by the Secretary of Agriculture in a letter to the Forester, dated February 1, 1905, in which he said:

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people and not for the temporary benefit of individuals or companies. All the resources of the forest reserves are for use, and this must be brought about in a thoroughly prompt and business like manner, under such restrictions only as will insure the permanence of these resources. * * * You will see to it that the water, wood, and forage of the reserves are conserved and wisely used for the benefit of the homebuilder first of all, upon whom depends the best permanent use of lands and resources alike. * * * In the management of each reserve local questions will be decided upon local grounds; the dominant industry will be considered first, but with as little restriction to minor industries as may be possible; sudden changes in industrial conditions will be avoided by gradual adjustment after due notice, and where conflicting interests must be reconciled the question will always be decided from the standpoint of the greatest good to the greatest number in the long run.

AGRICULTURAL LAND.

Land more valuable for agriculture than for timber growing is excluded from the National Forests, so far as is possible, when the boundaries are drawn. Small tracts of land which can not be thus excluded are opened to settlement under the Forest Homestead Act of June 11, 1906. Taken as a whole, however, the proportion of land within the Forests more valuable for agriculture than for growing timber or other purposes is trifling. The greater part of the really valuable agricultural land within the Forests has already been taken up, and most of what there is left has a severe climate and lies at high altitudes, often remote from roads, schools, villages, and markets. Therefore the chances offered the prospective settler in the immediate vicinity of the Forests are far better than in the Forests themselves. Nevertheless, the Forest Service wants settlers on the National Forests, the more the better, because they help to fight fire and in many other ways assist the forest officers.

SALE OF TIMBER.

Ripe timber on the Forests, of which there is a large amount, is sold at a fair price to the highest bidder. Anybody may purchase timber, but no one can obtain a monopoly of it or hold it for speculative purposes. The Government is anxious to sell the mature timber on the Forests, because it is no longer growing at a profitable rate, and so should give way to young trees and seedlings which will insure continuous production. The fewest possible

number of restrictions are imposed upon purchasers of timber, only such as will insure cut-over areas being left in the best condition for future growth. Experienced woodsmen estimate the quantity and quality of National Forest timber and its approximate value, as a basis for the price to be charged. In fixing this, all factors which affect the cost of lumbering, such as accessibility, number and kind of improvements necessary, etc., as well as general market conditions, are taken into account. The prices asked allow the purchaser of National Forest timber opportunity for a fair profit. Attractive logging chances are gladly made known to the public, because the Forest Service wants the ripe timber used; and full information regarding them and the conditions of sale is given inquirers.

The trees to be cut on a sale area are marked in advance by a forest officer, the object being to leave enough of the younger trees to seed the ground and form the basis of a second crop of timber on the same land. This is merely applying the principles of practical forestry to make sure that there will always be timber on the National Forests to cut. Timber on the watersheds of streams is never cut to an extent that will impair the protective cover that the forest affords, because one of the chief objects of the National Forests is to regulate stream flow.

Small sales of timber are made by forest officers on the ground, to avoid delay. Red-tape methods are not permitted in National Forest timber sales, big or little. Larger sales are made either by the supervisor of the Forest, the district forester, or the Forester, according to the amount desired.

Small sales of timber for local use are encouraged. This is one of the ways in which the National Forests are made to serve the small lumberman and consumer. Though single sales have been made for as much as 800,000,000 board feet, over nine-tenths of the sales are for less than \$100 worth of timber. Of the 10,905 timber sales made on the National Forests in the fiscal year 1915, 10,621 were of this latter kind.

Homestead settlers and farmers may obtain National Forest timber for their own use at the actual cost of making the sale. No charge is made for the timber itself. This is one of the ways in which the National Forests are made to serve local residents.

GRAZING.

Along with the timber on the National Forests there is a great deal of pasture land, and this is used at present by some 7,280,000 sheep and goats and 1,725,000 cattle and horses every year in addition to their natural increase. Local settlers and stockmen have the first right to the use of the range, just as in the case of the other resources, and every man who grazes stock on the Forests under permit is allotted a certain area for the grazing season. In this way unfair competition between the big man and the little man, which in the old days worked so much harm, is done away with. A good supply of forage year after year is insured by not allowing the land to be overcrowded with stock. Under regulation the range is improved, instead of being overgrazed and denuded, as has been the case with many of the outside public lands.

MINING.

Mineral deposits within National Forests are open to development exactly as on unreserved public land. A prospector can go anywhere he chooses and stake a claim wherever he finds any evidence of valuable minerals. The only restriction is that mining claims must be bona fide ones and not taken up for the purpose of acquiring valuable timber, or a town or power site, or to monopolize the water supply on stock ranges. Bona fide mining men do not wish to take up claims for an unlawful purpose, and the National Forests are open to them at all times. Prospectors may obtain a certain amount of National Forest timber free of charge to be used in developing their claims, and in other ways the Forest Service gives the mining man all the help it can. More than 500 mineral claims were patented within the National Forests during the fiscal year 1915.

WATER POWER.

Along the streams within the National Forests are many sites suitable for power development. These are open to occupancy for such purposes and have the advantage of being on streams whose headwaters are protected. The Government does not permit the monopolization of power in any region or allow power sites to be held without prompt development. Permits for power development on the National Forests usually run for a term of 50 years, and may be renewed at their expiration upon compliance with regulations then existing. Such permits, while granting liberal terms to applicants, contain ample provision for the protection of the public interests.

FOREST OFFICERS AND THE PUBLIC.

Whoever wishes to make any use of the resources of the National Forests for which a permit is required should consult the nearest forest officer. Supervisors, rangers, and other forest officers carry out the administrative policy prescribed for the National Forests by Congress, as embodied in the regulations made by the Secretary of Agriculture. Forest officers are agents of the people and their duty is to assist the public in making use of the resources of the Forests. They aim to prevent misunderstanding and violation of Forest regulations by timely and tactful advice rather than to follow up violations by the exercise of their authority. Forest users can aid greatly in the efficient performance of the public business by according to forest officers the same frankness, consideration, and courtesy which the forest officers are expected to show them.

INVESTIGATIVE AND COOPERATIVE WORK.

Besides administering the National Forests, the Forest Service conducts a number of special investigations relating to the growth and management of forests and their utilization.

It studies the characteristics and growth requirements of the principal tree species of the United States, in order to determine how different types of forests should be handled, and also the best methods of forest planting, both for the National Forests and for other parts of the country. At experiment stations maintained in connection with the

National Forests it investigates the scientific problems underlying the management of forests, the relation of forests to stream flow and climate, and the like.

It cooperates with States in studying their forest conditions, with the object of developing forest policies adapted to their needs, and with private owners by furnishing advice concerning the best methods of managing and protecting their forest holdings. It also cooperates with States, under the terms of section 2 of the Weeks law, in protecting from fire the forest cover on the watersheds of navigable streams.

One of the aims of forestry is to see that the products of the forest are put to their best use with the least waste. Through studies of wood uses the Forest Service aids the wood-consuming industries to find the most suitable raw material and to develop methods of utilizing their waste products. It also investigates methods of disposing of wood waste, collects statistics on the price of lumber at the mill and on the market, and studies lumber specifications and grading rules.

To carry out the idea still further, a forest products laboratory is maintained at Madison, Wis., in cooperation with the University of Wisconsin. Here, among other things, the physical properties of wood are studied, such as its strength. Studies are also made at the laboratory of its seasoning and kiln-drying, its preservative treatment, its use for the production of paper pulp, fiber board, and the like, and in the manufacture of alcohol, turpentine, rosin, tar, and other chemical products.

Besides strictly forest investigations, the Service studies the life history and growth requirements of forage plants, in order that the National Forest ranges may be restored to the best condition.

FOREST SERVICE ORGANIZATION.

The work of the Forest Service is administered by the Forester and Associate Forester, and is organized under the Branches of Operation, Lands, Silviculture, Research, and Grazing. A separate unit is charged with the acquisition of lands in the Southern Appalachians and White Mountains under the Weeks law.

The Branch of Operation has general supervision of the personnel, quarters, equipment, and supplies of the Service, and of all fire protection and permanent improvement work on the National Forests.

The Branch of Lands examines and classifies lands within the National Forests to determine their value for forest purposes, conducts the work in connection with claims on the National Forests prior to proceedings before United States registers and receivers, and assists the Chief Engineer of the Service in handling matters in connection with the occupation and use of National Forest lands for hydroelectric power purposes.

The Branch of Silviculture supervises the sale and cutting of timber on the National Forests, and cooperates with States in protecting forest lands under section 2 of the Weeks law.

The Branch of Research has supervision over the investigative work of the Service, including silvicultural studies,

studies of State forest conditions, investigations of the lumber and wood-using industries and lumber prices, and the investigative work carried on at the Forest Products Laboratory and the forest experiment stations.

The Branch of Grazing supervises the grazing of live stock upon the National Forests, allotting grazing privileges, and dividing the ranges between different owners and classes of stock. It is also charged with the work of improving depleted grazing areas and of cooperating with the Federal and State authorities in the enforcement of stock quarantine regulations.

Lands in the southern Appalachians and White Mountains are being purchased by the National Forest Reservation Commission, in accordance with the act of March 1, 1911, commonly known as the Weeks law, which provides for the acquisition of forest land on the watersheds of navigable streams. The Forest Service has been designated as the bureau to examine and value such lands as may be offered for purchase. Up to June 30, 1915, 1,061,084 acres had been approved for purchase in the southern Appalachians and 256,467 acres in the White Mountains. These lands will be administered as National Forests.

NATIONAL FOREST DISTRICTS.

In order to prevent delay and "red tape" in the administration of the National Forests, seven field districts have been established, with a district forester in charge at each of the headquarters, as follows: District 1 (Montana, northeastern Washington, northern Idaho, northwestern South Dakota, and southwestern North

Dakota), Missoula, Mont.; District 2 (Colorado, Wyoming, the remainder of South Dakota, Nebraska, western Kansas, northern Michigan, and northern Minnesota), Denver, Colo.; District 3 (most of Arizona, and New Mexico), Albuquerque, N. Mex.; District 4 (Utah, southern Idaho, western Wyoming, eastern and central Nevada, and northwestern Arizona), Ogden, Utah; District 5 (California and southwestern Nevada), San Francisco, Cal.; District 6 (Washington, Oregon, and Alaska), Portland, Oreg.; and District 7 (Arkansas, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, and Porto Rico), Washington, D. C.

In each district office assistant district foresters are in charge of operation, lands, silviculture, and grazing work in that district.

NATIONAL FOREST FORCE.

Each National Forest is in charge of a forest supervisor, who is the general manager of his Forest, planning the work and seeing that it is carried out, always under the general direction, of course, of the district forester. On Forests where there is a particularly large volume of business the supervisor is assisted by a deputy. As might be imagined, supervisors and deputy supervisors have to be men of experience in woods work, road and trail building, the stock business, and in all other lines of work carried on in the National Forests; so the positions are always filled by the promotion of experienced men in the Forest Service.

Forest assistants are employed in the various subordinate lines of technical and administrative work on the Forest under the direction of the supervisor. The position is filled through a technical examination. After a probationary period of not less than 2 years, forest assistants who have rendered satisfactory service are given the designation of forest examiner and assigned to such work as examining and mapping forest areas, designating timber to be cut in sales, surveying boundaries, and conducting nursery work and forest planting.

Every National Forest is divided into ranger districts with a district ranger in charge of each. Rangers perform the routine work involved in the supervision of timber sales, grazing, and free use and special use. They also help to build roads, trails, bridges, telephone lines, and other permanent improvements on the Forests. A ranger must naturally be sound in body, for he is called upon to work for long periods in all kinds of weather. He must also know how to pack supplies and find food for himself and his horse in a country where it is often scarce. Besides a written test, prospective rangers are examined in compass surveying, timber work, and the handling of horses. They are also rated according to experience and fitness.

In addition to the different classes of forest officers mentioned, logging engineers, lumbermen, scalers, and planting assistants are employed on the Forests in the work of timber appraisal, cruising, scaling, and forest planting. Like all other permanent employees, they are appointed only after a civil service examination.

Forest guards are temporary employees appointed during the seasons of greatest fire danger.

On July 1, 1915, the force employed by the Forest Service numbered 3,875. Of these, about 3,275 were employed upon the National Forests as supervisors, deputy supervisors, rangers, guards, etc.; and 600 were engaged in administrative, scientific, and clerical work at the Washington and district headquarters.

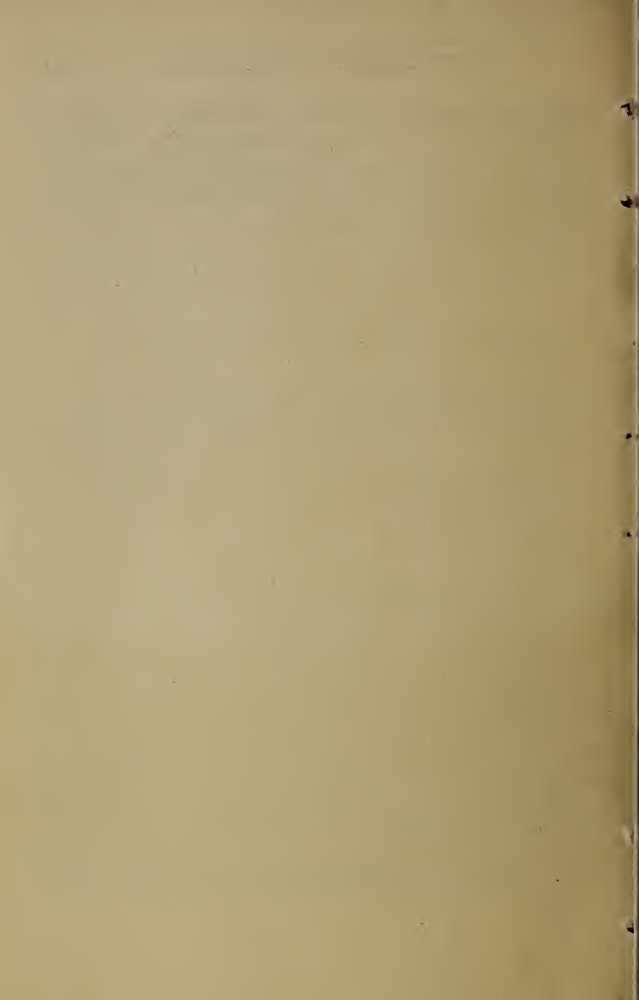
RECEIPTS FROM NATIONAL FORESTS.

The total receipts from the National Forests on account of timber sales, grazing fees, and special uses, during the fiscal years 1912, 1913, 1914, and 1915, were as follows:

1912.....	\$2, 157, 356. 57
1913.....	2, 391, 920. 85
1914.....	2, 437, 710. 21
1915.....	2, 481, 469. 35

It could not be expected, of course, that rugged, inaccessible mountain lands, such as constitute by far the greater part of the National Forests, would soon yield a revenue to the Government over and above the cost of administration. Many of the Forests are meant to supply the country's future needs for timber after the more accessible lands have been cut over, rather than its present needs, while others are chiefly valuable for watershed protection, which, though of the greatest importance to the people and industries of the country, does not yield the Government a return in dollars and cents. In the case of almost every Forest, moreover, a great deal of

money must be spent for roads, trails, bridges, and telephone lines before the resources can be used. Nevertheless, 44 of the 162 National Forests paid their local operating costs in 1914. A much greater number of Forests should be self-supporting by 1920.



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FOREST SERVICE.

HENRY S. GRAVES, Forester.

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Along the streams within the National Forests are many sites suitable for power development. These are open to occupancy for such purposes and have the advantage of being on streams whose headwaters are protected. The Government does not permit the monopolization of power in any region or allow power sites to be held without prompt development. Permits for power development on the National Forests usually run for a term of 50 years, and may be renewed at their expiration upon compliance with regulations then existing. Such permits, while granting liberal terms to applicants, contain ample provision for the protection of the public interests.

FOREST OFFICERS AND THE PUBLIC.

Whoever wishes to make any use of the resources of the National Forests for which a permit is required should consult the nearest forest officer. Supervisors, rangers, and other forest officers carry out the administrative policy prescribed for the National Forests by Congress, as embodied in the regulations made by the Secretary of Agriculture. Forest officers are agents of the people and their duty is to assist the public in making use of the resources of the Forests. They aim to prevent misunderstanding and violation of Forest regulations by timely and tactful advice rather than to follow up violations by the exercise of their authority. Forest users can aid greatly in the efficient performance of the public business by according to forest officers the same frankness, consideration, and courtesy which the forest officers are expected to show them.

INVESTIGATIVE AND COOPERATIVE WORK.

Besides administering the National Forests, the Forest Service conducts a number of special investigations relating to the growth and management of forests and their utilization.

It studies the characteristics and growth requirements of the principal tree species of the United States, in order to determine how different types of forests should be handled, and also the best methods of forest planting, both for the National Forests and for other parts of the country. At experiment stations maintained in connection with the

National Forests it investigates the scientific problems underlying the management of forests, the relation of forests to stream flow and climate, and the like.

It cooperates with States in studying their forest conditions, with the object of developing forest policies adapted to their needs, and with private owners by furnishing advice concerning the best methods of managing and protecting their forest holdings. It also cooperates with States, under the terms of section 2 of the Weeks law, in protecting from fire the forest cover on the watersheds of navigable streams.

One of the aims of forestry is to see that the products of the forest are put to their best use with the least waste. Through studies of wood uses the Forest Service aids the wood-consuming industries to find the most suitable raw material and to develop methods of utilizing their waste products. It also investigates methods of disposing of wood waste, collects statistics on the price of lumber at the mill and on the market, and studies lumber specifications and grading rules.

To carry out the idea still further, a forest products laboratory is maintained at Madison, Wis., in cooperation with the University of Wisconsin. Here, among other things, the physical properties of wood are studied, such as its strength. Studies are also made at the laboratory of its seasoning and kiln-drying, its preservative treatment, its use for the production of paper pulp, fiber board, and the like, and in the manufacture of alcohol, turpentine, rosin, tar, and other chemical products.

Besides strictly forest investigations, the Service studies the life history and growth requirements of forage plants, in order that the National Forest ranges may be restored to the best condition.

FOREST SERVICE ORGANIZATION.

The work of the Forest Service is administered by the Forester and Associate Forester, and is organized under the Branches of Operation, Lands, Silviculture, Research, and Grazing. A separate unit is charged with the acquisition of lands in the Southern Appalachians and White Mountains under the Weeks law.

The Branch of Operation has general supervision of the personnel, quarters, equipment, and supplies of the Service, and of all fire protection and permanent improvement work on the National Forests.

The Branch of Lands examines and classifies lands within the National Forests to determine their value for forest purposes, conducts the work in connection with claims on the National Forests prior to proceedings before United States registers and receivers, and assists the Chief Engineer of the Service in handling matters in connection with the occupation and use of National Forest lands for hydroelectric power purposes.

The Branch of Silviculture supervises the sale and cutting of timber on the National Forests, and cooperates with States in protecting forest lands under section 2 of the Weeks law.

The Branch of Research has supervision over the investigative work of the Service, including silvicultural studies,

studies of State forest conditions, investigations of the lumber and wood-using industries and lumber prices, and the investigative work carried on at the Forest Products Laboratory and the forest experiment stations.

The Branch of Grazing supervises the grazing of live stock upon the National Forests, allotting grazing privileges, and dividing the ranges between different owners and classes of stock. It is also charged with the work of improving depleted grazing areas and of cooperating with the Federal and State authorities in the enforcement of stock quarantine regulations.

Lands in the southern Appalachians and White Mountains are being purchased by the National Forest Reservation Commission, in accordance with the act of March 1, 1911, commonly known as the Weeks law, which provides for the acquisition of forest land on the watersheds of navigable streams. Up to June 30, 1915, after examination by the Forest Service, 1,061,084 acres had been approved for purchase in the southern Appalachians and 256,467 acres in the White Mountains. These lands will be administered as National Forests.

NATIONAL FOREST DISTRICTS.

In order to prevent delay and "red tape" in the administration of the National Forests, seven field districts have been established, with a district forester in charge at each of the headquarters, as follows: District 1 (Montana, northeastern Washington, northern Idaho, northwestern South Dakota, and southwestern North Dakota), Missoula, Mont.; District 2 (Colorado, Wyoming,

the remainder of South Dakota, Nebraska, western Kansas, northern Michigan, and northern Minnesota), Denver, Colo.; District 3 (most of Arizona, and New Mexico), Albuquerque, N. Mex.; District 4 (Utah, southern Idaho, western Wyoming, eastern and central Nevada, and northwestern Arizona), Ogden, Utah; District 5 (California and southwestern Nevada), San Francisco, Cal.; District 6 (Washington, Oregon, and Alaska), Portland, Oreg.; and District 7 (Arkansas, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, and Porto Rico), Washington, D. C.

In each district office assistant district foresters are in charge of operation, lands, silviculture, and grazing work in that district.

NATIONAL FOREST FORCE.

Each National Forest is in charge of a forest supervisor, under the general direction of the district forester. On Forests where there is a particularly large volume of business the supervisor is assisted by a deputy. Supervisors and deputy supervisors have to be men of experience in woods work, road and trail building, the stock business, and in all other lines of work carried on in the National Forests; so the positions are always filled by the promotion of experienced men in the Forest Service.

Forest assistants are employed in the various subordinate lines of technical and administrative work on the Forest under the direction of the supervisor. The position is filled through a technical examination. After a proba-

tionary period of not less than 2 years, forest assistants who have rendered satisfactory service are given the designation of forest examiners and assigned to such work as examining and mapping forest areas, designating timber to be cut in sales, surveying boundaries, and conducting nursery work and forest planting.

Every National Forest is divided into ranger districts, with a district ranger in charge of each. Rangers perform the routine work involved in the supervision of timber sales, grazing, and free use and special use. They also help to build roads, trails, bridges, telephone lines, and other permanent improvements on the Forests. A ranger must naturally be sound in body, for he is called upon to work for long periods in all kinds of weather. He must also know how to pack supplies and find food for himself and his horse in a country where it is often scarce. Besides a written test, prospective rangers are examined in compass surveying, timber work, and the handling of horses. They are also rated according to experience and fitness.

In addition to the different classes of forest officers mentioned, logging engineers, lumbermen, scalers, and planting assistants are employed on the Forests in the work of timber appraisal, cruising, scaling, and forest planting. Like all other permanent employees, they are appointed only after a civil service examination.

Forest guards are temporary employees appointed during the seasons of greatest fire danger.

On July 1, 1915, the force employed by the Forest Service numbered 3,875. Of these, about 3,275 were employed upon the National Forests as supervisors, deputy

supervisors, rangers, guards, etc., and 600 were engaged in administrative, scientific, and clerical work at the Washington and district headquarters.

RECEIPTS FROM NATIONAL FORESTS.

The total receipts from the National Forests on account of timber sales, grazing fees, and special uses, during the fiscal years 1912, 1913, 1914, and 1915, were as follows:

1912.....	\$2, 157, 356. 57
1913.....	2, 391, 920. 85
1914.	2, 437, 710. 21
1915.....	2, 481, 469. 35

It could not be expected, of course, that rugged, inaccessible mountain lands, such as constitute by far the greater part of the National Forests, would soon yield a revenue to the Government over and above the cost of administration. Many of the Forests are meant to supply the country's future needs for timber after the more accessible lands have been cut over, rather than its present needs, while others are chiefly valuable for watershed protection, which, though of the greatest importance to the people and industries of the country, does not yield the Government a return in dollars and cents. In the case of almost every Forest, moreover, a great deal of money must be spent for roads, trails, bridges, and telephone lines before the resources can be used. Nevertheless, 44 of the 162 National Forests paid their local operating costs in 1914.





1915-1916

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